REMARKS

Claims 1-33 are currently pending. Claims 1, 3, 5, 8, 14, 19, 23, 26, 27, 29, 32 and 33 are amended herein.

Allowable Subject Matter

Applicant notes with appreciation that Claims 3-4, 20, and 23-28 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. In response, Applicants have rewritten in independent form Claim 3, including all of the limitations of base Claim 1 and intervening Claim 2, and Claim 23, including all the limitations of base Claim 1. Claim 4 depends from rewritten Claim 3, and Claims 24-28 depend from rewritten Claim 23. Accordingly, Applicant respectfully submits that Claims 3-4 and 23-28 are in condition for allowance.

Amendments

Applicant has amended Claim 1 to clarify that the movement between the workpiece surface and the workpiece-surface-influencing device is relative in order to avoid unduly limiting the claims. The skilled artisan will readily appreciate from the application as filed that the function described in the application depends solely on relative motion (toward or away) between the recited features, regardless of whether the workpiece or the workpiece-surface-influencing device is actively moved. For example, in the Summary section of the application as filed, at p. 10, lines 6-9, reference is made to plating "particularly after the workpiece surface influencing device no longer contacts any portion of the top surface of the workpiece," without any reference to which feature is actively moved. Accordingly, Applicant submits that the addition "relative" is supported by the application as filed and introduces no new matter.

Similar amendments have been made to Claims 3, 14 and 23 to avoid unduly limiting the claims.

Applicant has also amended the dependency of various claims in view of the newly rewritten independent claims. Claim 26 has also been amended to recite the same limitations added by Claim 8.

Rejections Under 35 U.S.C. §112

Claim 19 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner indicated that it was unclear whether the conductor from Claim 1 was the same as the copper or copper alloy of Claim 19. Applicant has amended Claim 19 to clarify that the plating is of the same conductor recited in independent Claim 1.

Rejections Under 35 U.S.C. §102

Claims 1-2, 5, 7-8, 11-13, 16, 19, 21, 29, and 31-32 are rejected under 35 U.S.C. §102(e) as being anticipated by Walton et al., U.S. Patent No. 6,270,646. Applicant respectfully traverses.

As discussed in the telephonic interview of February 16, 2005, Walton et al. does not disclose a plating process which the substrate is (relatively or absolutely) moved away from the sponge during processing. Rather, in several locations Walton et al. discusses the ability to vary the distance between the sponge or "compressible member" and the substrate surface initially during setup of the equipment for processing. See, e.g., column 2, lines 35-36; column 3, lines 58-67; and column 4, lines 54-63. This vertical movement prior to processing is to set the distance or gap between the substrate and the sponge such that the substrate can move relative to the compressible member during the plating operation, see column 2, lines 36-43; column 3, lines 61-62; column 4, lines 25-27. The relative motion that the set gap allows between the substrate and the compressible member is disclosed in the preferred embodiment as being rotational movement. The distance is set during setup such that a small gap is formed between the wafer 1 and the sponge 21 to permit that relative motion or rotation of the wafer. *See* column 5, lines 37-40.

Importantly, however, there is no such relative movement of the wafer and the sponge toward or away from one another during processing. For example, Walton et al. specify that "a separation distance may be maintained between the substrate and the compressible member." Column 2, lines 34-35. Figure 2A, for example, clearly shows a consistent gap between the wafer and the substrate, in the form of a thin gap 27 over the top surface 1*f* of the wafer and a thicker gap 26 at the cavities. This gap in all locations is described as being advantageous in providing a small distance 27 for inhibitors to diffuse from the sponge 21 to the wafer 1 at the

wafer surface 1*f*, and a longer distance for the inhibitors to diffuse into the thicker area 26 or cavities.

The reference also includes discussion of "contact" between the wafer and the sponge. This contact relates primarily to electrical contact, which includes contact through the thin separation 27 that has electrolyte plating solution that can conduct electricity across that thin gap. *See* column 2, line 39 (referring to "maintaining electrical contact therewith."); column 3, lines 60-65 ("the gap 25 between the sponge and the wafer (also filled with plating solution) is adjusted to permit relative motion between the wafer 1 and the sponge 21, while maintaining electrical contact between the seed layer on the front surface 1*f* of the wafer and on the back surface 21*b* of sponge 21."). Clearly the gap is there to allow rotation of the wafer relative to the sponge, but the gap is thin and "filled with plating solution" such that they are able to maintain "electrical contact."

There is also reference to "mechanical contact between the sponge 21 and the wafer 1" which is stated to be "controlled by moving or flexing the sponge." Col. 4, lines 54-55. Again, in the context of Walton et al. as a whole, this is clearly referring to the setup of the apparatus, and even so does not actually state a preference from mechanical contact. Rather, the presence or absence of mechanical contact is "controlled" by setting the distance between the sponge and the wafer. *See* column 4, lines 54-58. In any case, whether or not the process employs physical contact between the wafer and the substrate, during the process there is no disclosure of relatively moving the sponge 21 away from the wafer.

As also discussed in the telephonic interview, the very mechanism by which Walton et al. theorized improved plating relies on maintaining a small distance or gap between the wafer and the substrate. Namely, as is clearly disclosed at column 5, lines 18-30 and Figure 2A, the mechanism relied upon by Walton et al. involves providing a thinner area 27 across which inhibitors diffuse to the wafer surface 1*f*, as compared to the thicker area 26 through which plating inhibitors have to diffuse into the cavities. The differential between the thinner area 27 and the thicker area 26 is rather large if there is a very small gap between the wafer and the sponge. On the other hand, if the sponge were to be moved away from the wafer surface as recited in Claim 1, that differential would be diminished.

Pending independent Claim 1 (as amended), in contrast, clearly recites a plating process that includes both (1) in one stage "physical contact" between the workpiece and the workpiece-

surface-influencing device "to change at least the first portion of the additive absorbed onto the top portion" of the workpiece; and (2) in a second stage "moving the workpiece-surface-influencing device relatively away from the workpiece surface so that physical contact between the workpiece-surface-influencing device and the workpiece no longer occurs" and plating "while the workpiece-surface-influencing device remains relatively moved away from the workpiece surface." The physical contact is clearly recited as part of the processing, since it follows the application of electrolyte solution with the one additive, by reciting that the physical contact changes the first portion of the additive absorbed onto the top portion. Furthermore, processing also includes the second stage, since plating occurs while the workpiece-surface-influencing device is relatively moved away from the workpiece.

Accordingly, Applicant respectfully submit that all of the features of independent Claim 1 are not taught or suggested by Walton et al. Furthermore, none of the other references of record supply the deficiencies of Walton et al.

Rejections Under 35 U.S.C. § 103

The Examiner has also rejected Claim 6, 9-10, 14-15, 17-18, 30 and 33 under 35 U.S.C. § 103(a) as being unpatentable over Walton et al. as supplied in the anticipation rejections and further in view of Applicant's "admitted prior art."

In view of the distinctions of the independent Claim 1 over Walton et al., as set forth above, Applicant respectfully submits that the "admitted prior art" does not supply the deficiencies of Walton et al., without any admissions to the status of so-called "admitted prior art." Accordingly, Applicant respectfully submits that the rejections for obviousness are overcome.

Conclusion

In view of the foregoing remarks, Applicant respectfully submits that the application is in condition for allowance and requests the same. If, however, some issue exists that the Examiner feels could be addressed by Examiner Amendment, the Examiner is cordially invited to call the undersigned for authorization.

Respectfully submitted,

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